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ABSTRACT

Affective and physiological responses, interpersonal interaction, and alcohol consumption have been significantly correlated with cognitive factors in defining the behavioral effects of alcohol. To investigate alcohol reinforcement expectancies at the abusive end of the drinking continuum, 305 male and female adult alcoholics enrolled in alcohol treatment programs completed the Alcohol Expectancy Questionnaire, the Demographic Data Sheet, and the Customary Drinking Record. An analysis of the results showed that the reinforcing experiences expected from alcohol varied significantly with the topography of habitual drinking. Both the quantity/frequency of consumption and the social/physical context of drinking were related differentially to the expectancy patterns of alcoholics in a fashion which cannot be solely attributed to the pharmacologic effects of the drug. Specifically, individuals who drank in either a socially or physically impersonal context were more likely to attribute strong reinforcement characteristics to alcohol, while alcoholics who habitually drank at home or in the context of family members viewed alcohol in less positive terms. Those alcoholics limiting their consumption either to a maximum of four days per week or daily drinking in small quantities continued to view alcohol as possessing the strongest reinforcement properties. (BL)

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Topography of Drinking and
Reinforcement from Alcohol

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It is increasingly evident that the reinforcing characteristics of alcohol are a function not only of alcohol's pharmacologic effects, but other factors as well. Experimental studies have demonstrated that alcohol may acquire reinforcing properties by virtue of the situational cues associated with drinking (e.g. Pliner & Cappell, 1974). Additionally, behavior and affective state during alcohol consumption may vary markedly with the social context in which the drinking occurs (e.g., Goldman, 1974).

Cognitive factors have also been identified as significant contributors to the behavioral effects of alcohol. In particular, in experimental alcohol studies affective responses (e.g. Vuchinich, 1978; Land, Goeckner, Adesso & Marlatt, 1975), physiological responding (e.g. Wilson & Lawson, 1978), interpersonal interaction (e.g. Abrams & Wilson, 1977), and actual alcohol consumption (e.g. Marlatt, Deming & Reid, 1973) have been shown to be partially, and in some cases, solely dependent on cognitive rather than pharmacologic factors. The specific cognitions linked to alcohol consumption have been explored via factor analytic investigations. Brown and associates (1980) have identified six forms of reinforcement associated with alcohol: 1) general positive changes, 2) enhanced sexual experiences and performance, 3) increased social and physical pleasure, 4) socially assertive personality changes, 5) relaxation and tension reduction and 6) arousal and power. These and similar expectancies with adolescents (e.g. Christiansen, Goldman & Inn, 1982) have been found to vary with non-alcoholic habitual drinking patterns.

The present study explored alcohol reinforcement expectancies at the abusive end of the drinking continuum. Specifically examined was the linkage of reinforcement associated with alcohol to topographical features of alcohol consumption among adult alcoholics. Two questions were addressed:

1. Within alcoholic populations does anticipated reinforcement from alcohol vary with specific topographical features of habitual drinking (e.g. quantity and frequency, social and physical context of drinking) and
2. What is the specific nature of the relationship of alcohol expectancies to drinking pattern characteristics within alcoholic populations.

Method

Subjects

The subject population consisted of 305 male and female adult alcoholics who were currently in alcohol treatment programs. Subjects were drawn from two residential and five inpatient alcohol treatment programs. All subjects had completed detoxification with a minimum of three weeks abstinence prior to participation in the research project.

Procedure

Participants were individually administered three questionnaires: 1) Alcohol Expectancy Questionnaire (AEQ), 2) Demographic Data Sheet (DDS) and 3) Customary Drinking Record (CDR). The AEQ is a 90 item questionnaire measuring the six previously identified alcohol expectancies (Brown, Goldman, Inn & Anderson, 1980). For each participant, expectancy scores were calculated for the six AEQ factors. The DDS is a brief self-report form requesting background information related to American drinking practices (Cahalan 1970). Specific drinking history and drinking pattern characteristics were obtained via responses to the CDR and are presented in Table 1.

The CDR is a composite self-report questionnaire measuring such dimensions of alcohol consumption patterns as: quantity and frequency of alcohol consumption, social and physical context of drinking, preference for type of alcohol, alcohol related illness and problems, and length of personal experience with alcohol.

All participation was voluntary, independent of the alcohol treatment which the participants received and carried out within the ethical guidelines of the universities and facilities involved.

For purposes of analyses, participants were grouped on the basis of usual social and physical context of drinking as well as by quantity and frequency of their alcohol consumption.

Results

As is demonstrated in Figure 1, alcoholics typically drinking in different social/environmental contexts significantly differ on four of the six alcohol reinforcement expectancies. Analysis of variance procedure identified differences across the context defined drinking pattern subgroups on Expectancies I - General positive changes ($F=7.50$; $df=299$; $p<.001$), II - Sexual enhancement ($F=5.00$; $df=304$; $p<.01$), IV - Social assertion ($F=5.19$; $df=301$; $p<.001$), and V - Tension reduction ($F=4.64$; $df=303$; $p<.01$). The respective Neuman-Kuels multiple range tests indicate that, in general, those adult alcoholics typically drinking at home or with family members expect less reinforcement from alcohol than alcoholics drinking in all other contexts (e.g. with friends, alone or acquaintances at parties, in bars or other places).

A one-way analysis of variance was conducted for each alcohol expectancy using a composite quantity-frequency composite to classify alcoholics into separate drinking pattern groups. The defined drinking patterns of the subject population were: 1) binge drinking (less than once per week), 2) 2-4 times per week, less than 6 ounces each, 3) 2-4 times per week, excessive amounts, 4) 5-7 times per week; 4-6 ounces each, and 5) 5-7 times per week, excessive amounts.

All analyses achieved statistical significance; thus, alcohol expectancies were related to drinking pattern as defined by quantity and frequency of consumption. In general, alcoholics moderating their consumption either in terms of frequency (2-4 days per week) or quantity (up to 6 ounces of alcohol) attributed the most reinforcement to alcohol. Post hoc Neuman-Kuels tests were utilized to further clarify the nature of the drinking pattern differences. Results indicate that individuals drinking 2-4 days per week in excessive quantities differed from all other subgroups in that they anticipate more social and physical pleasure (Expectancy III) with alcohol consumption. Additionally, binge drinkers were noteworthy in that they acknowledged less socially assertive interactional changes (Expectancy IV) than all other participants in the study. Thus, alcohol expectancies vary among alcoholics in terms of two topographical dimensions of drinking patterns: social/physical context of drinking and quantity/frequency of alcohol consumption.

Heretofore, the statistical analyses presented have sought to isolate independent main effects for drinking pattern variables. To specify the nature and extent of interactional effects occurring among drinking pattern variables and expectancy scores a canonical variate analysis was conducted. Table I lists the expectancy and drinking pattern variables comprising the canonical analysis.

One significant relationship between expectancies and drinking pattern was extracted with 18% of the variance shared by the variate pair. Correlational coefficients were calculated for each variable and the canonical variate. The resultant coefficient pattern indicates that, among alcoholics, those individuals with the most abusive consumption habits (including alcohol related illness) tend to be more global in their beliefs about alcohol and may expect more changes in their ability to be socially assertive when they drink.

Discussion

The present study demonstrates that not all alcoholics think alike when it comes to drinking. Specifically, in the alcoholic populations of the present study, the reinforcing experiences expected from alcohol varied significantly with the topography of habitual drinking. Both quantity/frequency of consumption and social/physical context of drinking were related differentially to the expectancy patterns of alcoholics in a fashion which cannot be solely attributed to the pharmacologic effects of the drug. Thus, even at the abusive end of the drinking continuum, alcohol reinforcement expectancies vary with the specific drinking habits of the individual.

Several specific expectancy-topography patterns emerge from the present data base. The findings suggest that the more impersonal the usual context of drinking (both social and physical), the more likely that the individual will attribute strong reinforcement characteristics to alcohol. Conversely, alcoholics who habitually drink at home or in the context of family members view alcohol in less positive terms (e.g. attribute less reinforcement to alcohol itself). In terms of quantity and frequency of consumption, those alcoholics limiting their consumption either to a maximum of 4 days per week or daily drinking in smaller quantities continue to view alcohol as possessing the strongest reinforcement properties. Thus, attributional differences may exist within the alcoholic population in terms of the type and strength of expectations of reinforcement anticipated from alcohol.

Finally, the results of the present study provide convergent validation for experimental alcohol research demonstrating that affective and behavioral differences may be functionally related to contextual features of drinking. It is possible that specific alcohol related expectancies emerge and are maintained as a function of these or other topographical features of drinking. While at the present time the developmental process is unclear, both cognitive and pharmacologic factors appear to be involved in alcohol consumption and the effects of alcohol in both abusive and non-abusive ranges of the drinking continuum.

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DRINKING CONTEXT:
FIGURE 1. EXPECTANCY ENDORSEMENT BY COMPANIONS WHEN DRINKING

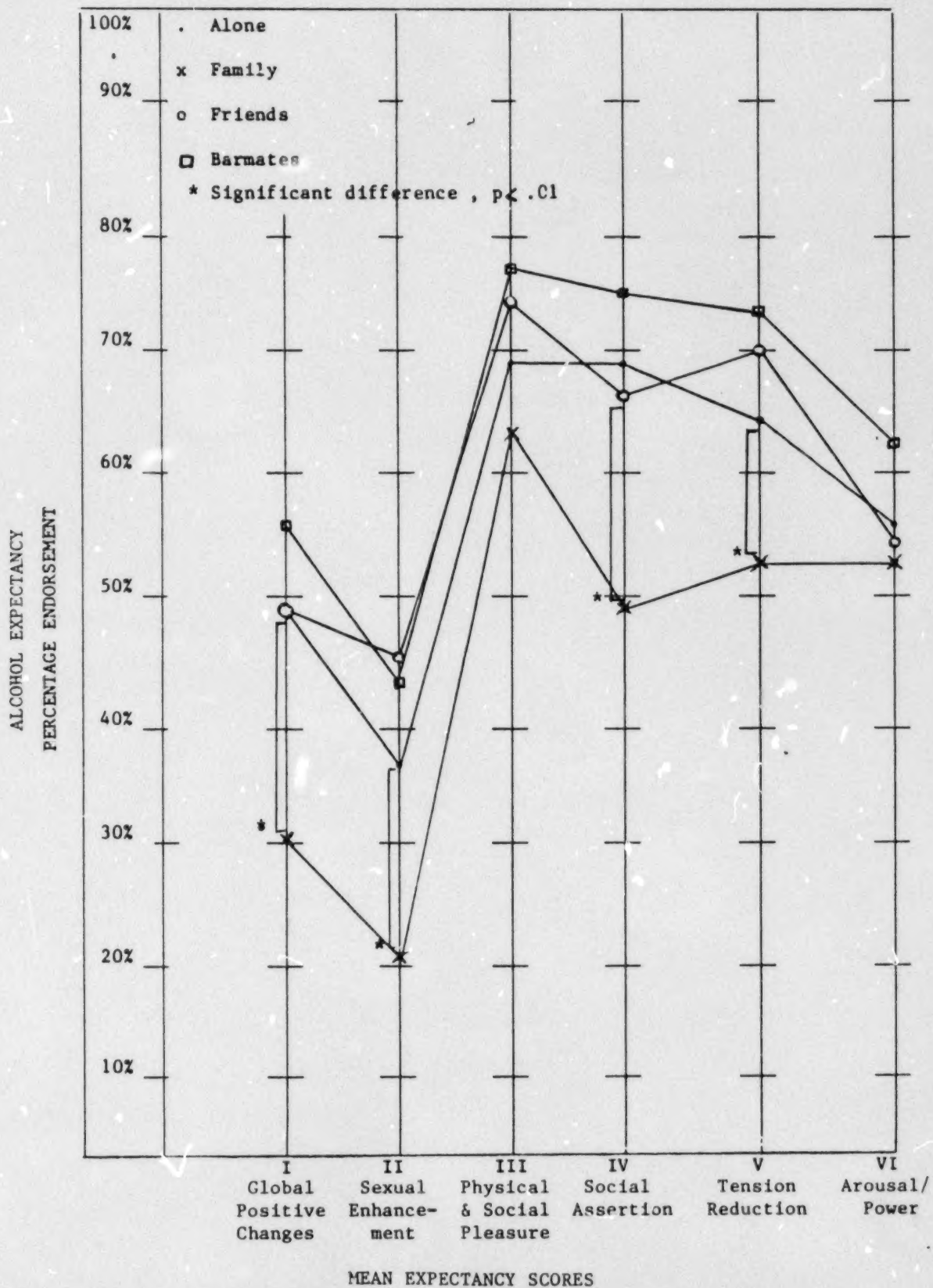


TABLE 1

Canonical Variate Analysis
of Expectancy Scores and
Drinking Pattern Variables

Eigenvalues	Canonical Correlation	Wilk's Lambda	Chi-Square Value	Degrees of Freedom	Significant Level
0.176	.420	.653	104.034	60	$p < .001$

Coefficients for Canonical Variate

Expectancy Variables	Correlation	Drinking Variables	Correlation
Expectancy I	.801	Frequency of consumption	.543
Expectancy II	.122	Quantity of consumption	.802
Expectancy III	.367	Rank order: Wine-Beer-Liquor	.278
Expectancy IV	.664	Rank order: Beer-Wine-Liquor	-.019
Expectancy V	.270	Illness Score	.615
Expectancy VI	.327	History of Binge Drinking	.685
		Past Alcohol Treatment	.178
		Number of Years Drinking	-.020
		Companions When Drinking	-.436